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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,920	10/10/2003	Douglas K. Birlingmair	455632000200	2245

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HOLME ROBERTS & OWEN, LLP
299 SOUTH MAIN
SUITE 1800
SALT LAKE CITY, UT 84111

EXAMINER	
NGUYEN, HOAI AN D	
ART UNIT	**PAPER NUMBER**
2858	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

EK

Office Action Summary	**Application No.** 10/683,920	**Applicant(s)** BIRLINGMAIR ET AL.	
	Examiner Hoai-An D. Nguyen	**Art Unit** 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2005*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.
  4a) Of the above claim(s) *11-21* is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-10 and 22-25* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *10 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida (US 6,185,111).

In the present claims, the preamble does not give life, meaning and vitality to the claims since the respective bodies of the claims define complete apparatuses that do not rely on the preambles for completeness.

Yoshida teaches a switching power supply apparatus comprising:

With regard to claim 1, a primary winding (FIG. 1, primary winding 11a) around a core, the primary winding being coupled to receive a voltage (FIG. 1, voltage Vin) to be sensed, a first secondary winding (FIG. 1, first secondary winding 11b) around a core, the first secondary winding being coupled to a first output terminal (FIG. 1, output terminal 18b), a second secondary winding (FIG. 1, second secondary winding 11c) around a core, the second secondary winding being coupled to the first output terminal (FIG. 1, output terminal 18b), and a bridge circuit (FIG. 1, rectifying diode 12, rectifying diode 13, inductance device 16 and capacitor 17) coupled to the first and second secondary windings and to a second output terminal (FIG. 1, output terminal 18a) (Column 6, lines 23-67).

With regard to claims 2, a number of windings of the first secondary winding is equal to a number of windings on the second secondary winding (Column 6, lines 45-46).

With regard to claim 3, a winding ratio of the primary winding to the secondary windings is greater than one (Column 6, lines 45-46. For example, N = 2 in this case).

With regard to claim 4, a winding ratio of the primary winding to the secondary windings is equal to one (Column 6, lines 45-46. For example, N = 1 in this case).

With regard to claim 5, a winding ratio of the primary windings to the secondary windings is less than one (Column 6, lines 45-46. For example, N = 1/2 in this case).

With regard to claim 6, the first and second secondary windings (FIG. 1, second secondary windings 11b and 11c) are formed by a center-tapped secondary winding coupled at a halfway point to the first output terminal (FIG. 1, output terminal 18b).

With regard to claim 9, the first and second secondary windings are formed by two windings (FIG. 1, first and second secondary windings 11b and 11c) coupled together and coupled to the first output terminal (FIG. 1, output terminal 18b) of the transformer (FIG. 1, transformer 11).

3. Claims 1, 6, 10, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Mullersman (US 4,424,476 A).

In the present claims, the preamble does not give life, meaning and vitality to the claims since the respective bodies of the claims define complete apparatuses that do not rely on the preambles for completeness.

Mullersman teaches a controlled fast charger comprising:

With regard to claim 1, a primary winding (FIG. 1, left winding of the voltage transformer T) around a core, the primary winding being coupled to receive a voltage (FIG. 1, voltage V) to be sensed, a first secondary winding (FIG. 1, top right winding of the voltage transformer T) around a core, the first secondary winding being coupled to a first output terminal (FIG. 1, output terminal O_2), a second secondary winding (FIG. 1, bottom right winding of the voltage transformer T) around a core, the second secondary winding being coupled to the first output terminal (FIG. 1, output terminal O_2), and a bridge circuit (FIG. 1, bridge network N) coupled to the first and second secondary windings and to a second output terminal (FIG. 1, output terminal O_1) (From column 3, line 22 to column 4, line 4).

With regard to claim 10, a primary winding (FIG. 1, left winding of the voltage transformer T) around a core, the primary winding being coupled to receive a voltage (FIG. 1, voltage V) to be sensed, a first secondary winding (FIG. 1, top right winding of the voltage transformer T) around a core, the first secondary winding being coupled to a first output terminal (FIG. 1, output terminal O_2), a second secondary winding (FIG. 1, bottom right winding of the voltage transformer T) around a core, the second secondary winding being coupled to the first output terminal (FIG. 1, output terminal O_2), and a bridge circuit (FIG. 1, bridge network N) having two resistors (FIG. 1, (R_5 and thermistor T_1) and (R_6 and thermistor T_2)) coupled in parallel, said bridge circuit coupled to the first and second secondary windings and to a second output terminal (FIG. 1, output terminal O_1) (From column 3, line 22 to column 4, line 4).

With regard to claim 22, a primary winding (FIG. 1, left winding of the voltage transformer T) around a core, the primary winding being coupled to receive a voltage (FIG. 1, voltage V) to be sensed, a first secondary winding (FIG. 1, top right winding of the voltage transformer T) around a core, the first secondary winding being coupled to a first input (FIG. 1, non-inverting input of operational amplifier A) of a signal processing circuit (FIG. 1, electronic switch consisting of a silicon controlled rectifier (SCR) and the non-latching switching control circuit, for controlling the SCR, comprising an operational amplifier A and a switching transistor Q), a second secondary winding (FIG. 1, bottom right winding of the voltage transformer T) around a core, the second secondary winding being coupled to the first input (FIG. 1, non-inverting input of operational amplifier A) of the signal processing circuit, and a resistive bridge circuit (FIG. 1, bridge network N having (R_5 and thermistor T_1) and (R_6 and thermistor T_2)) coupled to the first and second secondary windings and to a second input (FIG. 1, inverting input of operational amplifier A) of the signal processing circuit (From column 3, line 22 to column 4, line 4).

With regard to claims 6 and 23, the first and second secondary windings (FIG. 1, top right winding of the voltage transformer T and bottom right winding of the voltage transformer T) are formed by a center-tapped secondary winding coupled at a halfway point to the first output terminal (FIG. 1, output terminal O_2) (Column 3, lines 32-34).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Glasband et al. (US 6,060,876).

Yoshida teaches all that is claimed as discussed in the above rejection of claims 1-6 and 9, but it does not specifically teach the following:

- The first and second secondary windings are formed in a bifilar arrangement on the core.

However, Glasband et al. teach a symmetrical power system comprising:

- With regard to claims 7 and 8, the first and second secondary windings are formed in a bifilar arrangement on the core (From column 3, line 33 to column 4, line 5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the switching power supply apparatus of Yoshida to incorporate the teaching of the first and second secondary windings being formed in a bifilar arrangement on the core taught by Glasband et al. since Glasband et al. teach that such an arrangement is beneficial to provide an inexpensive and effective means of providing a more perfectly balanced output as disclosed from column 3, line 33 to column 4, line 5.

6. Claims 7, 8, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullersman in view of Glasband et al.

Mullersman teaches all that is claimed as discussed in the above rejection of claims 1, 6, 10, 22 and 23, but it does not specifically teach the following:

- The first and second secondary windings are formed in a bifilar arrangement on the core.

However, Glasband et al. teach a symmetrical power system comprising:

- With regard to claims 7, 8, 24 and 25, the first and second secondary windings are formed in a bifilar arrangement on the core (From column 3, line 33 to column 4, line 5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the controlled fast charger of Mullersman to incorporate the teaching of the first and second secondary windings being formed in a bifilar arrangement on the core taught by Glasband et al. since Glasband et al. teach that such an arrangement is beneficial to provide an inexpensive and effective means of providing a more perfectly balanced output as disclosed from column 3, line 33 to column 4, line 5.

Response to Arguments

7. Applicant's arguments filed December 17, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument in paragraphs 3 and 4 on page 8 about claim 1 and its dependent claims that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "The claimed bridge circuit eliminates the effects of temperature dependence of the impedance of the coils, and therefore the temperature effects on the output voltage" or "the claimed bridge circuit, which is not a similar rectifier as shown in the Yoshida reference, is designed to eliminate the effects of temperature at the output of a transformer by canceling the effects of the coil impedance") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In addition, the preamble does not give life, meaning and vitality to the claims since the respective bodies of the claims define complete apparatuses that do not rely on the preambles for completeness.

Claims 2-6 and 9 have been traversed as discussed above.

Applicant's amendment to claim 22 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, claims 22-25 have been rejected as discussed above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant's attention is invited to the followings whose inventions disclose similar devices.

- Cross et al. (US 4,554,439 A) teaches two wire heater regulator control circuit having continuous temperature sensing excitation independent of the application of heater voltage.
- Lang (US 6,538,341 B1) teaches a universal power supply for different small electrical devices.
- Lucas (US 6,741,124 B2) teaches a differential gain adjusting amplifier system with selectable electroluminescent differential photocell attenuation.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai-An D. Nguyen whose telephone number is 571-272-2170. The examiner can normally be reached on M-F (8:00 - 5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoai-An D. Nguyen
Examiner
Art Unit 2858
HADN

DIANE LEE
SUPERVISORY PATENT EXAMINER